

HAWAII, ISLAND OF OAHU

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16303000 PUNALUU STREAM NEAR PUNALUU

LOCATION.--Lat 21°33'33", long 157°54'06", Old Hawaiian Datum, Hydrologic Unit 20060000, on left bank at Punaluu ditch diversion dam, 1.4 mi west of Kahana, and 1.8 mi southwest of Punaluu.

DRAINAGE AREA.--2.78 mi².

PERIOD OF RECORD.--May 1953 to current year.

REVISED RECORDS.--WSP 1569: Drainage area. WRD Hawaii 1974: 1971-72(P), 1973(M). WDR HI-78-1: 1954(M), 1955-70(P).

GAGE.--Gage destroyed by flood of March 20-21, 1991 was restored and water-stage recorder installed on March 29, 1993. Masonry control and elevation of gage is 212 ft above mean sea level (from topographic map). Prior to March 29, 1993, datum 2.00 ft higher.

REMARKS.--Records computed by Heather Jeppesen. Records good, except for discharges above 50 ft³/s, which are poor. Records do not include flow of Punaluu ditch (see station 16302000).

AVERAGE DISCHARGE.--51 years (water years 1954-2004), 16.3 ft³/s (11,820 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s, March 20, 1991, gage height, 10.02 ft, from rating curve extended above 170 ft³/s on basis of slope-area measurements at gage heights 7.77 ft and 9.60 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 930 ft³/s and maximum (*):

	Date	Time	Discharge (ft ³ /s)	Gage height (ft)		Date	Time	Discharge (ft ³ /s)	Gage height (ft)
	Nov 29	1430	*1,120	*5.92					
	Feb 7	2030	1,040	5.78		Aug 4	0530	1,070	5.83

Minimum discharge, 1.1 ft³/s, Nov. 27, gage height, 2.12 ft.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	2.8	72	33	15	22	27	16	13	13	9.9	9.3
2	1.8	3.5	51	89	13	116	27	13	15	14	18	12
3	2.5	2.3	65	64	15	43	37	14	17	13	43	13
4	1.8	3.5	124	23	24	30	23	16	16	10	195	11
5	2.8	5.8	149	17	23	20	19	16	14	11	35	8.5
6	5.3	19	67	15	19	17	20	16	12	14	19	11
7	6.7	10	135	14	164	15	17	64	15	11	30	9.1
8	8.4	5.2	75	13	64	17	14	22	17	13	20	11
9	8.8	2.6	41	13	25	14	16	17	20	39	17	13
10	8.6	2.6	33	11	20	13	19	23	23	14	16	12
11	8.2	3.5	31	11	18	18	15	81	24	16	18	10
12	6.5	4.5	25	16	17	52	33	53	21	12	17	10
13	2.0	4.8	22	17	17	27	26	27	16	12	17	8.7
14	3.6	4.8	18	33	14	23	19	24	13	13	18	13
15	6.2	5.7	14	14	11	16	21	47	12	13	19	14
16	6.2	4.6	15	11	11	16	44	33	13	13	15	15
17	6.1	3.4	19	11	11	17	26	21	20	13	14	11
18	3.5	5.5	18	10	12	17	16	20	13	9.9	14	8.0
19	2.6	6.1	17	8.6	11	18	25	20	18	10	12	11
20	2.3	6.7	17	11	8.6	17	59	22	16	10	13	8.3
21	2.9	5.4	13	13	8.4	87	39	23	13	13	12	11
22	2.8	2.5	8.0	26	7.6	42	22	22	17	11	11	12
23	2.5	3.7	9.2	24	8.0	47	22	19	17	9.3	12	14
24	3.5	2.7	8.9	15	9.1	34	22	16	18	10	16	13
25	2.8	3.6	7.8	41	11	31	21	18	15	11	15	10
26	1.7	4.8	7.9	28	23	44	73	17	12	9.3	12	8.7
27	1.8	3.6	8.1	17	128	38	28	17	12	11	14	9.0
28	4.2	2.3	10	16	42	25	19	16	13	14	13	9.3
29	4.9	240	6.9	19	25	54	18	14	14	11	9.7	21
30	1.9	228	22	25	---	64	17	13	17	9.1	10	13
31	2.7	---	28	18	---	31	---	15	---	9.7	10	---
TOTAL	129.8	603.5	1,137.8	676.6	774.7	1,025	784	755	476	392.3	694.6	339.9
MEAN	4.19	20.1	36.7	21.8	26.7	33.1	26.1	24.4	15.9	12.7	22.4	11.3
MAX	8.8	240	149	89	164	116	73	81	24	39	195	21
MIN	1.7	2.3	6.9	8.6	7.6	13	14	13	12	9.1	9.7	8.0
AC-FT	257	1,200	2,260	1,340	1,540	2,030	1,560	1,500	944	778	1,380	674

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2004, BY WATER YEAR (WY)

MEAN	13.0	19.3	19.8	20.2	20.5	21.0	20.6	17.1	10.9	11.6	11.1	10.0
MAX	38.7	74.7	64.5	40.9	76.3	73.1	84.6	64.9	35.4	39.0	36.9	29.9
(WY)	(1959)	(1991)	(1965)	(1988)	(1969)	(1982)	(1963)	(1965)	(1982)	(1974)	(1982)	(1994)
MIN	0.28	4.58	0.23	2.11	0.58	3.19	2.37	1.00	0.00	0.00	0.31	0.49
(WY)	(1958)	(1960)	(1960)	(2001)	(1964)	(1993)	(1954)	(1961)	(1953)	(1961)	(1961)	

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16303000 PUNALUU STREAM NEAR PUNALUU—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1953 - 2004
ANNUAL TOTAL	3,974.31	7,789.2	
ANNUAL MEAN	10.9	21.3	
HIGHEST ANNUAL MEAN			16.3
LOWEST ANNUAL MEAN			35.4
HIGHEST DAILY MEAN	240	Nov 29	7.17
LOWEST DAILY MEAN	0.75	Jul 19	2000
ANNUAL SEVEN-DAY MINIMUM	1.9	Aug 24	
ANNUAL RUNOFF (AC-FT)	7,880	15,450	1,010
10 PERCENT EXCEEDS	18	40	Apr 15, 1963
50 PERCENT EXCEEDS	4.9	14	0.00 Jun 1, 1953
90 PERCENT EXCEEDS	1.8	4.7	0.00 Jun 1, 1953
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